Status of Lynx and Wolverine Studies and Monitoring Efforts within the Greater Yellowstone Ecosystem

With the recent listing of Canada lynx *(Lynx canadensis*) as a threatened species, and the petitioning of wolverine (*Gulo gulo*) as a threatened or endangered species, Greater Yellowstone Coordinating Committee units are engaged in various studies to help determine the extent, distribution, potential habitat, and prey base for lynx and wolverine.

The Canada lynx is a rare forest dwelling cat of northern latitudes. The distribution of lynx is closely associated with the boreal forest that typically consists of spruce and subalpine fir with inclusions of whitebark and lodgepole pine. Lynx feed primarily on snowshoe hares but also will eat small mammals and birds. Persistence of lynx is closely tied to snowshoe hare distribution and density.

The Forest Service has signed a Conservation Agreement with the U.S. Fish and Wildlife Service that will promote conservation of lynx and its habitat on federal lands. It identifies actions the Forest Service will take to reduce or eliminate adverse effects or risk to lynx and its habitat. These actions are a result of considering new information about Canada lynx contained in the Lynx Science Report and the Lynx Conservation Assessment Strategy.

Lynx.

National Monitoring Protocols

In 1999, as part of the Forest Service Carnivore Conservation program and the subsequent Conservation Agreement between the Forest Service and the U.S. Fish and Wildlife Service, the Forest Service initiated a national lynx survey to determine the presence/absence of lynx on national forests and national parks across historic lynx range. A total of 50 surveys were completed within 36 different national forests and one national park during the survey season beginning in July of 1999 and ending in March of 2000. Most of these surveys are being repeated during the second round which began in June of 2000 and will be completed in March of 2001.

Of the 50 national protocol lynx surveys completed in 1999, DNA analyses detected lynx on just four surveys—Sunlight Basin/Beartooth area, Shoshone National Forest, the

Within the Greater Yellowstone Area (GYA), surveys have been completed or are planned for the following units.

Forests/Parks	General Vicinity of transects	Preliminary Results
Bridger-Teton NF	Wyoming Range	"Test" survey to help refine sampling techniques and estimate detection probability. Two survey rounds completed, but no positive results to date.
Targhee NF	Centennial Mountains Island Park Plateau	Two survey rounds completed, but no positive results to date. Two survey rounds completed, but no positive results to date.
Caribou NF	Soda Springs Montpelier Divide	First survey round completed in 2000, no positive results to date.
Shoshone NF	South Absaroka Mtns Sunlight Basin/Beartooths	Two survey rounds completed, but no positive results to date. Positive results from 1999 surveys. Transects not operational in FY 2000.
Beaverhead NF	Pioneer Mountains	"Test" survey to help refine sampling techniques and estimate detection probability. Two survey rounds completed, but no positive results to date.
Yellowstone NP	High-probability habitat within park	Will use national monitoring protocol, starting in 2001.
Grand Teton NP	High-probability habitat within park	Surveys using protocol developed by Weaver to commence in FY 2000.

Wolverine.

Seeley Lake area on the Lolo National Forest, the Boise National Forest, and the Okanogan National Forest. Results of the second round (2000 survey season) have not yet been reported.

Other on-going activities include lynx habitat mapping, winter track surveys and remote camera installations, and snowshoe hare density surveys. A study in cooperation with the Rocky Mountain Research Station (lead scientist Kevin McKelvey) is underway to help determine snowshoe hare density in relation to various vegetation types and successional stages on the Caribou-Targhee National Forest.

Status of Wolverines in the GYA

Wolverines were recently petitioned for listing as a threatened or endangered species under the Endangered Species Act. Wolverines occur in low-density populations and are one of the least studied carnivores in North America, particularly in the lower 48 states. Historical reductions in the distribution of wolverines seem to correlate with the encroachment of human civilization and suggest the species is especially sensitive to environmental perturbations and to local extinction.

The lynx steering committee consisting of Forest Service, National Park Service, U.S. Fish and Wildlife Service, and BLM expanded their charter to include wolverine on October 27, 2000. The steering committee plans to develop a wolverine conservation assessment and strategy similar to what was developed for the lynx. Products include a science assessment (including an historic map of wolverine occurrence), field monitoring protocol, and a conservation strategy. Additional wolverine research is planned through the University of Montana and the Rocky Mountain Research Station.

Wolverine research in Idaho and two snowtracking studies in Europe documented female wolverines abandoning reproductive dens as a result of human disturbance. This sensitivity to disturbance and the lack of data on the intensity and distribution of human winter recreational use indicates the need for more specific information on wolverine habitat use, denning requirements, and recreational use.

Grand Teton National Park/ Caribou-Targhee National Forest

The Wildlife Conservation Society, U.S. Forest Service, Wyoming Game and Fish Department, The Wolverine Foundation, Alta 4-H Exploring Natural Resources Club, Idaho Department of Fish and Game, Grand Targhee Resort, and the Hornocker Institute are involved with a study to evaluate wolverine habitat use in late winter, spring, and summer and den selection in relation to human recreation use in Grand Teton National Park and Targhee National Forest.

The data will be used to develop a more comprehensive long-term study plan directed at investigating the ecology of wolverines and the seasonal impact of human recreation use on wolverine habitat use in the Teton Range. The longer-term study will also include new study sites which at this time may include the Spanish Peaks area north on the Gallatin National Forest. The results of this longer-term study may be incorporated into comprehensive recreational use and monitoring plans by Grand Teton National Park and the Targhee National Forest and will be provided to the Park and Forest Service in the form of a report. Publication will be sought in peer-reviewed scientific literature.

The University of California, Santa Cruz, and the Idaho Department of Fish and Game are working with the Caribou-Targhee National Forest to develop a GIS model to identify potential wolverine denning habitat. Helicopter flights are planned to help validate the model.

For additional information on lynx, go to:
http://www.r6.fws.gov/endspp/lynx/

Greater Yellowstone Area: Lynx Sightings (1874–1998)